

OXYGEN CONCENTRATOR
CP-503

CONTROLLED COPY

MANUAL BOOK



ENVIRONMENT PROTECTION

1. Treatment of waste and residue

Do not throw away Nasal Cannula, humidification bottle and other component, can take them to the professional medical center nearby .

2. When the machine is scrapped, please contact your local supplier or manufacturer.

3. The disposal of wastes and residues should be in accordance with the relevant state laws and regulations.

MANUFACTURER INFORMATION

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We reserve the right to change the technology and appearance of this product without any prior notice.

Conducted	3	3 V/m	$d = \frac{7}{[E_t]}\sqrt{P}$ 800 MHz to 2.5 GHz
RF	V/m		Where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). b
IEC	80	MHz	Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ashould be less than the compliance level in each frequency range.
61000-4-3	to	2.5	Interference may occur in the vicinity of equipment marked with the following symbol:
	GHz		

NOTE-1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE-2 These guidelines may not apply in all situations. Electromagnetic is affected by absorption and reflection from structures, objects and people.

a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the CP503 OXYGEN CONCENTRATOR is used exceeds the applicable RF compliance level above, the CP503 OXYGEN CONCENTRATOR should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the CP503 OXYGEN CONCENTRATOR.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

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PREFACE

Dear user :

Thank you for your support! Hope you can be our satisfied user.

This manual describes the notices, operation steps, basic functions , technical parameters, basic troubleshooting, return repair instructions and other content, so that you will be familiar with the products and operate the machine well.

In order to ensure the effective use of this machine, please read the instructions carefully on the use of this manual. Before you operate the machine, please make sure that you have read and understand the basic operation of this product. Please pay special attention "IMPORTANT SAFEGUARDS".

Please note that some illustration in this manual is not exactly the same with the machine you see.

The humidification bottle, oxygen tubes / oxygen masks, filters and other random components mentioned in this manual should be selected in accordance with the requirements of product specifications.

If you have some problems for the usage, kindly feel free to contact the after sale service of the manufacturer

ELECTROMAGNETIC IMMUNITY

2 Guidance and manufacturer's declaration – electromagnetic immunity			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	<p>Portable and mobile RF communications equipment should be used no closer to any part of the CP503 OXYGEN CONCENTRATOR including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = \frac{3.5}{\sqrt{V_1}} \sqrt{P}$ $d = \frac{3.5}{\sqrt{E_1}} \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$

low-frequency vibration sound is detected.	be cut off	
D. Both the green Normal Oxygen and the yellow Low Oxygen lights are either on or off.	O.C.I malfunction	Contact your supplier
E. Yellow Low Oxygen light is on or the yellow low Oxygen light is on and the intermittent audible Signal is sounding.	<ol style="list-style-type: none"> 1. Flow meter is not properly yet. 2. Air intake filtering foam is blocked. 3. Exhaust is blocked. 	<p>Ensure the flow meter is properly set to the prescribed.</p> <p>Check the Air intake filtering foam. If the filtering foam is dirty, wash it following the cleaning instructions on page 6.</p> <p>Check the exhaust area: make sure there is nothing restricting the unit exhaust.</p>
F. Red Service Required light is on and an intermittent audible signal is sounding.	<ol style="list-style-type: none"> 1. Flow meter is not properly yet. 2. Air filter is blocked. 3. Exhaust is blocked. 	<p>Ensure the flow meter is properly set to the prescribed.</p> <p>To check if the Air filter have blocked, jam, please clean up the clutter.</p> <p>Check whether the Air filter is dirty, if dirty, please timely replace as required on page 6.</p> <p>Check the exhaust area: make sure there is nothing restricting the unit exhaust. If the above remedies do not work, contact your Medical provider.</p>
If the machine is still not working properly, please contact the product supplier or service point.		

* If there is no special description, please follow the above instructions.

IMPORTANT SAFEGUARDS



DANGER (If broke the regular operation, may arise serious injury or death.)

The measures to decrease burn, electric shock, fire or human injury risk. Avoid using the machine when take bath. If needed, Please follow up the doctor, and the oxygen machine must be used in another room 2.5 meters away outside the bathroom. Suggested that the oxygen p nasal oxygen tube is less than 11 meters and keep clear.

Do not place or store in the place where is easy to drop into the water or other liquid.

- ◆ Oxygen causes rapid burning. Do not use within 5 feet (1.6m) of hot, sparking objects or naked sources of flame.
- ◆ Do not smoke while your oxygen concentrator is operating, or when you are near a person utilizing oxygen therapy.
- ◆ The inappropriate use of power line and a plug, may cause a fire or other dangerous electric shock, burn, do not use the machine with broken power line.
- ◆ Before cleaning the machine dust in the shell must pull out the power plug to prevent electric shock.
- ◆ When the machine is working, please do not open the machine shell and internal box to prevent the damage caused by mechanical touch operation.



WARNING (The following items must be strictly enforced, otherwise it may cause serious consequences.)

- ◆ In order to prevent the oxygen failure or power outage, always need oxygen (such as the oxygen failure or power outage, always need for oxygen and serve patients) need oxygen supply device also configure other spare (such as oxygen bottles, oxygen bag etc.)

- ◆ This product can not be used to maintain any life, the patients with aerobic treatment are suggested to follow up your doctor's guidance to choose the oxygen flow and time when using this machine.
- ◆ If any discomfort or abnormal reaction arise, please immediately stop using this product, and contact the manufacturer or doctor.
- ◆ The seriously ill patients need additional configuration indicating equipment in the use of the products, or require additional medical coordination. Please consult a doctor before use. If you have any adverse reactions, please inform your doctor immediately.
- ◆ All the products if use in the altitude of over 2000 meters, the maximum recommended flow at rated oxygen concentration, the output purity will be less than 90%.
- ◆ Do not let many people use the same set of nasal oxygen mask, so to avoid cross infection caused by viruses or bacteria between users.
- ◆ We should use the required specification humidification bottle. Do not replace it arbitrarily, otherwise it may cause discomfort or oxygen inhalation hazard.
- ◆ The nasal oxygen tube should not be placed under the coverlet or cushion when use the machine, and cannot sit in pressure oxygen connecting tube to make sure use successfully and efficiency.
- ◆ When no one use, it is recommended to turn off the power switch, and set off the plug to avoid the burning.
- ◆ The use of this product, pay attention to whether the power line is too long to obstruct other walking so advice to use near the power socket.
- ◆ This product can not be equipped with the non humidification bottle specified or dosing accessories, so as not to affect the performance of the product.

FAULT AND REPAIRING COMPARISON TABLE



In order to avoid electric shock, please do not open the shell. Only authorized personnel.

Attached below the fault and repairing comparison table [will help you analyze the fault and repair oxygen machine. If the proposed steps do not help, please use the spare oxygen machine, and notify the oxygen machine supplier. Please don't try any other repairs.

Symptom	Possible Cause	Remedy
A. Unit does not operate. Power light is off when the power switch is "on". Audible alarm is pulsing and Service Required light is flashing.	1. Power cord not properly inserted into wall outlet. 2. No power at wall outlet. 3.Oxygen concentrator circuit breaker activated (selected units).	Check power connection at the wall outlet. On 230 voltage units, check the back of the unit. Check your home circuit breaker and reset if necessary. Use a different wall outlet if the situation occurs again. Press the concentrator circuit breaker button (if equipped) located below the power switch. Use a different wall outlet if the situation occurs again.
B. Unit operates within 1min; the Power light is on when the Power switch is "On". Red Service Required light is illuminated. Audible alarm may be sounding.	1. Air intake filtering foam is blocked. 2. Exhaust is blocked. 3. Blocked or defective nasal cannula, catheter, or face mask.	Check the Air intake filtering foam. If the filtering foam is dirty, wash it following the cleaning instructions on page 19. Check the exhaust area; make sure there is nothing restricting the unit exhaust. Detach nasal cannula, catheter, or face mask. If proper flow is restored, clean or replace if necessary. Disconnect the oxygen tubing at the oxygen outlet. If proper flow is restored, check oxygen tubing for obstructions or kinked. Replace if necessary.
C. Unit operates the power light is on when power switch is "on ", audible	The tie on the bottom of the machine do not	Turn off the machine and put off the power plug , then put the machine side , cut off the tie and put out.

WARRANTY

- 1. From the date of purchase 1 years or 8000 hours (to the expiration of the time cut-off point) for the quality assurance period, such as the product is not for the normal operation of non-human, manufacturing plants should provide with free service for the user to repair or replace parts.
- 2. Do not accept the failure machine due to unauthorized modification or installation of other features.

The following conditions are not free of maintenance:

- 1. Products over the warranty period;
- 2. Failure to operate not as manual requirements ;
- 3. Failure, scratch or damage caused by movement. ;
- 4. Do the repair, decomposition, assembly without allowance from professional personnel.
- 5. Normal damage of wearing parts and parts ;
- 6. Failure and damage caused by force majeure (e.g. fire, flood, earthquake, etc.).



CAUTIONS (Notice to the following content to avoid breaking the machine)

- ◆ Do not open the machine shell and internal boss to do the maintenance. If users found some problems, or found abnormal alarm, do not disassemble the repair, should contact the dealer or manufacturer immediately.
- ◆ It should be placed in the clean and free of dust, on corrosive and poisonous environment. Do not use this product under the condition of strong magnetic field environment.
- ◆ The air entrance of the machine should be located in a well ventilated and the air source inlet should be in place at least the pollutants (including / pollutants refers to: burning gas, exhaust system, air vents and other anesthesia vacuum exhaust port etc.).
- ◆ Please connect the separate (wall mounted) AC power outlet while using this product, do not connect the Do not connect the row insert board seat. Do not use with other electrical appliances at the same time use the power supply socket.
- ◆ This machine is strictly prohibited contact with oil and grease, such as the need to connect to other pipelines, valves, connectors, the use of this product, the connection set before the installation should be cleaned to ensure clean and no oil (grease) category. In the connection process, pay attention to keep all parts of the cleaning, the connection of the whole machine is strictly prohibited to touch any combustible oily liquid.
- ◆ To ensure that the bottom of the exhaust flow efficiency while use the machine. The back do not paste the wall, at least 30 cm from the wall, otherwise it will cause damage to the machine overheating.
- ◆ This machine is not frequent opening and closing, shut down after the start, the time interval of not less than 5 minutes, so as not to affect the service life of the compressor, the manufacturers recommend each operation is better over 30 minutes.
- ◆ The machine is only used as a medical oxygen supply, the output of the

Gas in the rated flow, the purity can up to 90%.

- ◆ Rotary flow control knob can not be forced too hard, or easy to damage the spool. When the flow control knob is turned on to the highest, but the flow indicator is zero, please turn off the power and then check the fault.
- ◆ When receive the products to operate and test, cut off the tie on the bottom of the machine otherwise it will cause damage to the machine.



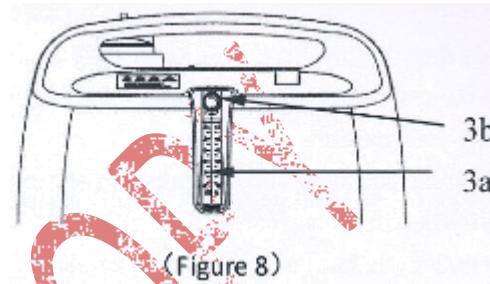
NOTICE (You must pay special attention to the information.)

- ◆ The purity will be up to 90% after boot for 10min.
- ◆ The nasal oxygen tube, oxygen mask used by patient need to be clean ,sterilize if need to use repeatly.
- ◆ The oxygen machine parts, humudufication bottle need to be cleaned every 2 to 3 days and the air intake flitering foam need to be cleaned every 100 hours. The air filter is recommended to be replaced after 1000 hours of machine use. Such as the use of the product environment dust or soot larger, the above parts, please reduce the time of cleaning or replacement. In order to ensure the use of the effect, the proposed early replacement of the parts.
- ◆ The use of water can be used as a humidified bottle must be distilled water or cold water, please do not directly put into the untreated tap water. The water bottle should be cleaned every 2~3 days from the time the summer, recommended daily replacement, if used after a few days without this product, please put all the water drained, humidifiedbottle dry stand-by.
- ◆ Select the nasal oxygen tube and oxygen mask with the same specification with the equipped one. If change the different one, ask the professional one or the manufacturer first.
- ◆ Do not throw the humidification bottle, nasal oxygen tube and mask at any place. The nearby waste disposal mechanism is the best choice.

CLEANING AND MAINTENANCE INSTRUCTIONS

1. Clean the outside shell: one – twice each month. Please cut off the power supply situation, use a wet towel to clean the exterior of the soft with a little detergent wipe, then dry towel to dry.
2. Clean the humidification bottle: you can use detergent and hot water to clean the humidification bottle separately, or with white vinegar with water at the ratio of 1:3 mixture of fungicides, 30 minutes in the humidification bottle after the separation of the solution, and then dry the wet bottle.
3. Clean the air intake filtering foam: take off the cotton on the back side of the box, clean it with detergent and rinse thoroughly with clear water. Dry in the air. If do not dry thoroughly, please don't use it. This is the important step for protect the machine. It is advised twice each month.

CONTROL



(Figure 8)

- a. The position of the flow knot in the oxygen flow meter indicates the size of the flow. (L/min)
- b. Flow adjusted valve : on/off button on the flow meter, adjust and control the flow of output oxygen.



Notice: Test the oxygen flow meter and make sure the knot in the regular tick mark (CP503 Max flow 5L/ min, do not let the knot over 5liter) .

The oxygen flow is so important so do not add or down the flow, just refer to the flow the doctor required.

Flow will be reduced if the flow meter is rotated clockwise. (Will eventually shut down the flow of oxygen) , if the counter clockwise rotation, the flow will increase.

4. **Air intake filtering foam:** To prevent dirt, dust, fibers into the machine
5. **Product nameplate / serial number label:** product performance, product serial number
6. **Castor (4):** flexible mobile machine
7. **Heat sink:** on the bottom of the machine, the equipment can not be blocked at work
8. **Oxygen outlet:** Connectto the humidified bottle or nasal oxygen tube by connecting tube
9. **Humidified bottle connecting tube**
10. **Humidification bottle**
11. **Straight out of the AC power cord (with plug)**

- ◆ Please select the suitable humidification bottle, rotate and fix in the machine as required. Do not use under the revolving situation. (Refer to the humidified bottle connection indicator diagram).
- ◆ When use the humidification bottle, pay attention to add water as the highest and lowest water level marked on the bottle body.
- ◆ When this machine is scrapped, please contact your local supplier or manufacturer.
- ◊ Please refer to “RELATED USE SYMBLE DESCRIPTION” to know the machine, package symbol.
- ◊ Please refer to “CHECK PACKAGE AND PACKING LIST” to test the equipped components after receive the goods and before use and then operate it as “PRODUCT OPERATING PROCEDURE”.

Related Use Symble Description

OFF	Off (Total power supply)	ON	On (Total power supply)
	Follow the instructions		No open flame
	No Smoking		Produating Date
	Safeguard		Series Number
	Cautions		Up Put
	Double insulated		Avoid the rain Keep dry
	Type BF applied part		Fragile handle with care.
230V~	AC 230V		Forbidden to sit
	Non-ionizing electromagnetic radiation		
	Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE Directive) after over the valid term within 3 years, the machine should be treated on local law or regulation requirement. To avoid hurt users and pollute environment.		

CHECK PACKAGE AND PACKING LIST

When you receive the product, please open the package carefully. This product is equipped with upper and lower foam protection cover, such as the protective cover is damaged, please immediately check whether the product is damaged or not. Then, check if there are any missing parts or accessories in the inspection of the packing list of the products.

Packing List			
Number	Product /Component Name	Quantity	Unit
1	Oxygen Concentrator	1	Unit
2	Humidification Bottle	1	Piece
3	Nasal Oxygen Tube	1	Piece
4	Air intake filtering foam	1	Piece
5	User Manual	1	Piece

PRODUCT OPERATING PROCEDURE

1. The tie on the bottom of the machine need to be cut off before boot. The machine back need to be far from the wall at least 30 cm, must be the bottom of the bubble board and other things to get open, to ensure that the bottom of the stack, in order to maintain the bottom of the flow and ensure the normal heat.
2. Connect the humidification bottle and operate it as following instruction:

- Fault code description:
- Show Lo-o2-cycle fault alarm or purity \leq 72%
- Show Lo-P-low pressure alarm
- Show Lo-Po2-cycle fault and low pressure alarm
- Show Hi-P-High pressure alarm
- Show Hi-Po2-cycle fault and high pressure alarm

Note: MIC Machine have the following self-test funtions: Low purity, cycle fault or purity \leq 72% alarm, low pressure alarm,

Cycle fault and low pressure alarm, High pressure alarm, cycle fault and high pressure alarm

When working normally, fault monitoring function oxygen machine will monitor the working state of oxygen making machine, when $72\% \leq \text{purity} \leq 82\%$, yellow low oxygen indicator light shinning ; if purity $\leq 72\%$, red alarm light shinning with continuous alarm sound.

When show Lo-o2, the machine will stop within1min, please turn off the machine immediately; When the machie show pressure, the red light will shin with continuous alarm sound.

Note: All the alarm state of the oxygen making machine belongs to the low priority. The alarm system have been set up in the factory, the user cannot change the alarm system settings.

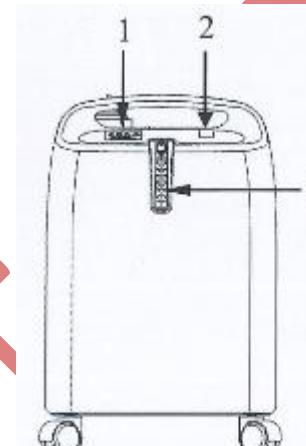
2. Power switch : ON / OFF

3. Oxygen flow meter

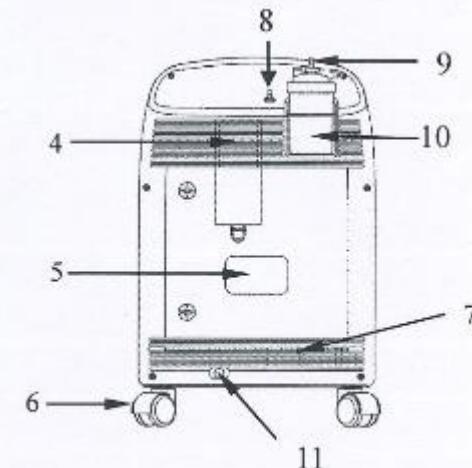
Compressor safety valve release pressure : $250\text{kPa} \pm 50\text{kPa}$

Oxygen output temperature : $\leq 46^\circ\text{C}$

COMPONENTS NAME AND FUNTIONS DESCRIPTION



(Figure 5)



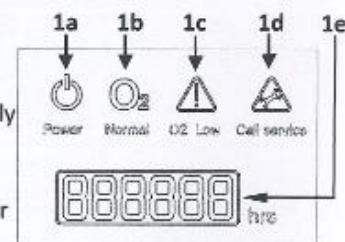
(Figure 6)

*The following Component description refer to figure 5, figure 6 *

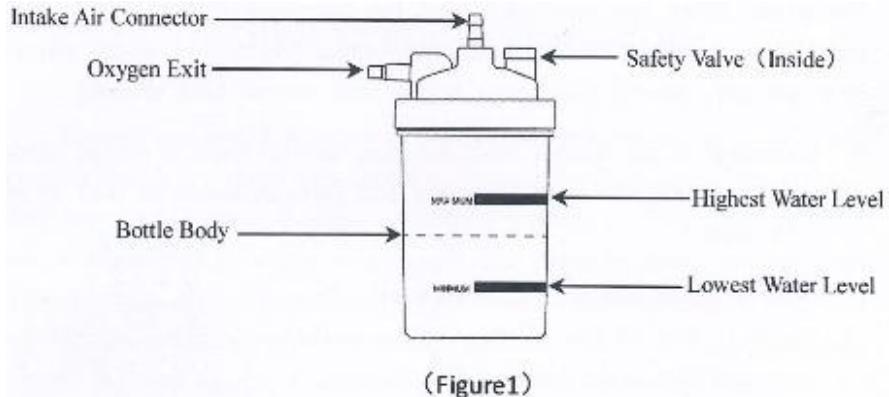
1. LED Display(Reference figure 7)

- Green power indicator light—Start operating
- Green indicator light—Oxygen output normally
- Green indicator light—Low Purity
- Red indicator light—Contact the manufacturer
- Digital display slot:

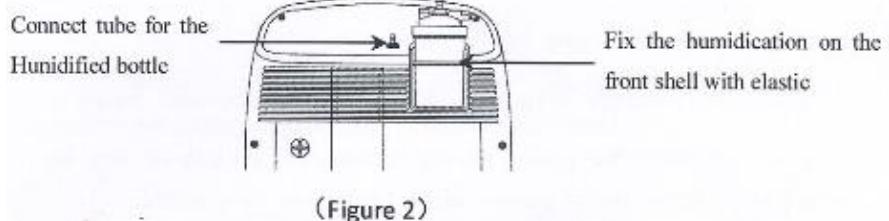
- Cumulative timing: Digital show



(Figure 7)



- Put into the distilled water as the water level instructions. Fix the cover to the body (Figure 1);



- Fix the humidification on the front shell elastic and the connect the air intake connector by the connecting tube of the bottle while another part to connect the oxygen exit. (Figure 2).



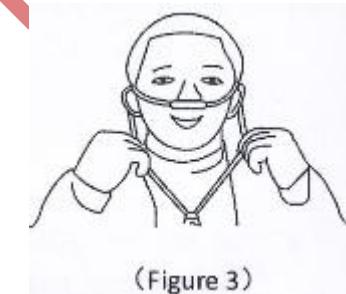
Notice: The best installation place as figure 2

- Remove the AC power line from the retaining strip, confirm the switch in the position. Insert the plug into the indoor power outlet at this time.
- MIC medical oxygen concentrator with the equipment to monitor

The purity. When the machine is on, the instruction light will shin for three time. Several minutes later, the yellow low oxygen purity alarm light will got, leaving the power supply and normal light shinning.

- According to the output flow, the flow control knob is turned clockwise to adjust the large flow rate and turn clockwise to turn down the flow.

- Put the nasal oxygen tube intake air connector to the air exit of the bottle , and then put the nasal tube to the user' ears, insert the nasal plug in the oxygen inhalation tube and to the nostrils



Of the oxygen inhalation person to make the Oxygen inhalation. Like Figure 3:

- When the machine is running, if the alarm is sounded, please check whether the power supply connection is loose or not, or whether the external power supply has been interrupted.
- When oxygen is finished, please turn off the power switch. According to the prompt cleaning oxygen inhalation tube or oxygen mask. Do not often use, please dial the power plug, the AC power line with the fuselage drawstring tie, and put the machine in place.

TECHNICAL PARAMETERS

Model	CP503
Working Voltage	230 V~ ± 10% / 50 Hz ± 1 Hz
Rated Power (VA)	280
Output Pressure=0/7kPa, the flow range (L/min)	0.5~5
Output Pressure=0, the purity value (within 10min, up to the standard)	Oxygen flow=0.5~5 L/min, purity ≥90%
Highest Flow	5 L/min
Highest Flow with 7kPa pressure, change of flow	≤0.5 L/min
Highest Flow, purity (within 10min, up to the standard)	≥90%
Range of adjusting flow	0~5L/min adjusted continuously
Net Weight (Kg)	14.5
Noise dB(A)	≤48
Dimension (mm)	L380 × W230 × H592
Oxygen output pressure	40kPa-60kPa
Yellow low oxygen indicator light	When 72% ≤ purity ≤ 82%, the yellow indicator will shin, contact the supplier. Make sure have the spare oxygen nearby when use it continuously.
Red alarm indicator light	When purity ≤ 72%, red indicator will alarm, and display show Lo-o2. It will stop within one minute. Please turn off at once and choose the spare oxygen, contact the supplier.

PURITY VALUE AND FLOW FUNTIONS CHART

CP503 output pressure=0, Purity and value flow funtions chart (Figure 4)

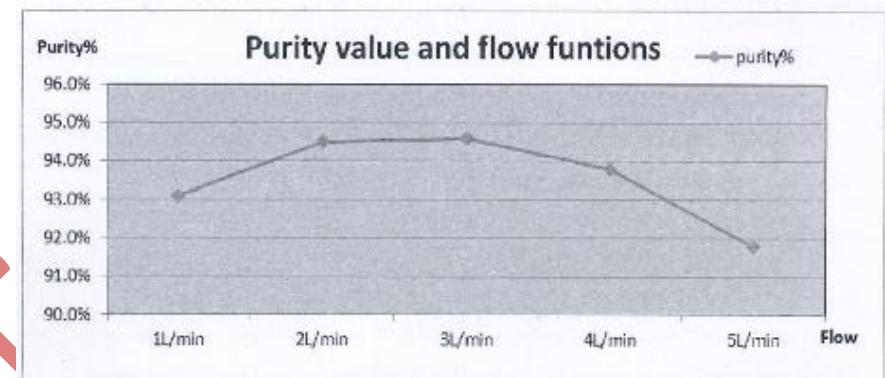


Figure 4

PRODUCTION INTRODUCTION

Oxygen concentrator refers to an oxygen concentrator used at home, nursing homes or patient care center to provide low flow oxygen therapy. Our MIC brand small medical oxygen generator product is adopted the pressure swing adsorption principle, air pressure and pressure, after the molecular sieve nitrogen and oxygen molecules in the air separation, oxygen retention, nitrogen discharge. When the power is switched on at room temperature, the oxygen in the air can be separated from the air to meet the medical standard.

STRUCTURE

This product is composed of the machine body, flowmeter, humidification bottle, nasal oxygen tube or oxygen mask.

CONTRINDICATION

Non

ENVIRONMENT REQUIREMENT

1. Environmental Temperature: 5°C - 40°C;
2. Relative Humidity: ≤80%;
3. Atmospheric Pressure: 86 kPa – 106kPa ;
4. No corrosive gas and strong magnetic field in the surrounding environment.

TRANSPORTATION AND STORAGE CONDITIONS

1. Range of Environmental Temperature : -20°C - +55°C;
2. Range of Relative Humidity : ≤93% ; without no condensation phenomenon ;
3. Range of atmospheric Pressure: 50kPa – 106 kPa



Notice:When the storage temperature is under 5°C , it should be put the machine under the normal temperature environment for over four hours before use it.

ADDITIONAL REMARKS

Classification of protection against electric shock : Class II

Classification according to the degree of protection against electric shock: Class BF

Classification according to the degree of protection of the liquid into the machine: IPX0 Device;

According to the degree of safety classification used in flammable anaesthetic mixture with air or oxygen or Nitrous Oxide anaesthetic mixture case: when do not use of flammable gas and air mixed with oxygen or Nitrous Oxide or anaesthetic mixture under condition of the equipment;

Classification according to the operation mode: continuous operation;

No signal output and signal input part;

Usage voltage: 230V -, 50Hz;

Working: Continuous working;

With the application of oxygen free discharge part of the protective effect of defibrillation;

Oxygen Concentrator is for non permanent installation equipment.

* Altitude: 0 meter to 2000 meter, oxygen purity ≥90%,

2001 meter to 4000 meter, ≤90%

PT. SINKO PRIMA ALLOY

TAMBAK OSOWILANGUN NO.61

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Nomor Dokumen : SPA-BM/PROD-156

Tanggal Terbit : 04 Agustus 2021

Revisi : 00